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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

MRUK, GEOFFREY S

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/751,512	Applicant(s) ITO ET AL.	
	Examiner Geoffrey Mruk	Art Unit 2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 July 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 41-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 41-48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/3/2008</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Claim 44 is objected to because of the following informalities: claim 44 contains a repeated word (i.e. direction). Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 41-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shigemura (US 6,667,795 B2).

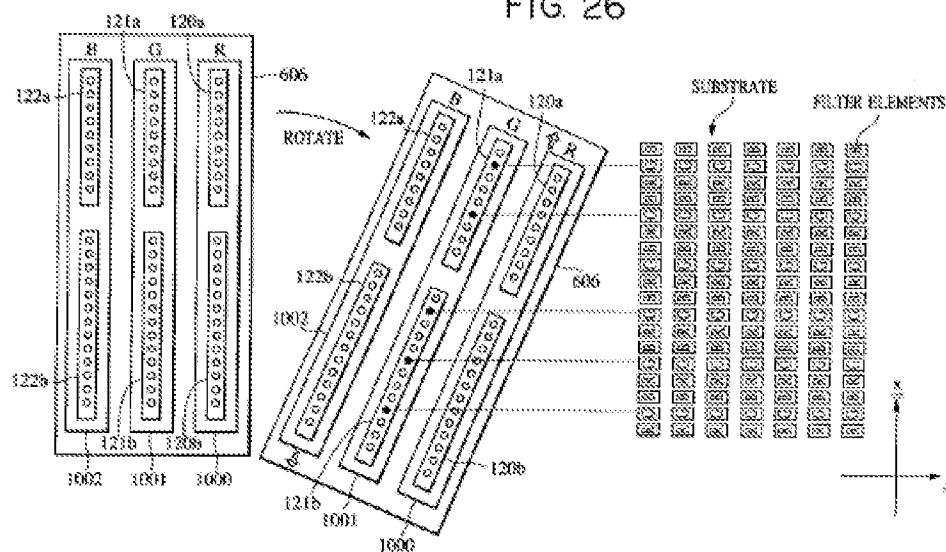
With respect to claim 41, Shigemura discloses an apparatus (Fig. 14) for manufacturing a color filter (Column 1, lines 15-24), comprising:

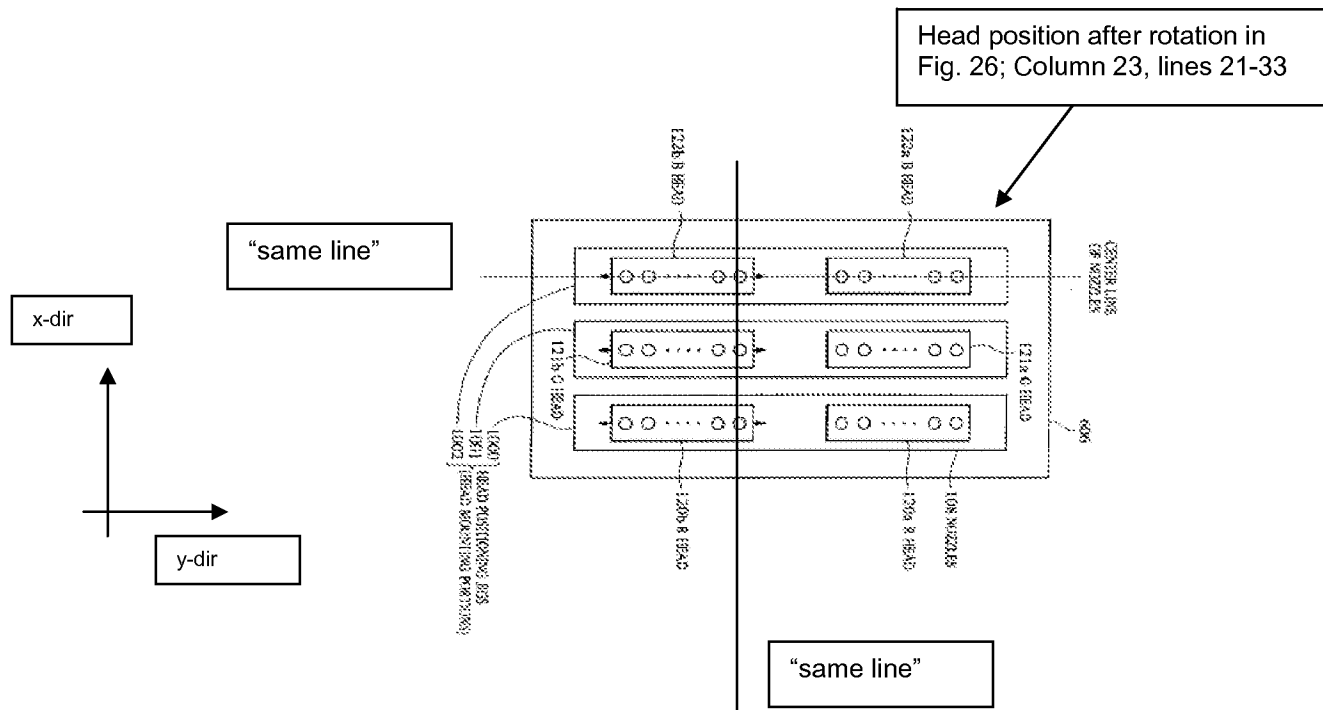
- a plurality of ejection heads (Fig. 26, elements 120a, 120b, 121a, 121b, 122a, 122b) which are arranged in a first direction that is perpendicular to a head scan direction (Fig. 26, element x-dir) arranged on a print head (Fig. 26, element 606), each ejection head having a plurality of nozzles (Fig. 16, elements 108) for ejecting a filter material in droplets (Column 1, lines 26-33); the plurality of nozzles (Fig. 16, elements 108) linearly arranged with a constant layout pitch of (D) (Fig. 23, Nozzle Pitch), the plurality of ejection

heads are arranged on the print head to form at least one linear row of nozzles (Fig. 16, center line of nozzles, i.e. y direction) arranged in the first direction (Fig. 26, element x-dir),

- wherein at least one of the ejection heads (Fig. 3A, elements 120, 121, 122) is configured to eject a first type of filter material (Column 10, lines 30-36), and at least another of the ejection heads is configured to eject a second type of filter material (Column 10, lines 30-36), and the at least one and another ejection heads are arranged in the first direction (Center line of nozzles below, i.e. after rotation).

FIG. 26





With respect to claim 42, Shigemura discloses an apparatus (Fig. 14) for manufacturing an electroluminescence substrate (Column 1, lines 15-24), comprising:

- a plurality of ejection heads (Fig. 26, elements 120a, 120b, 121a, 121b, 122a, 122b) which are arranged in a first direction that is perpendicular to a head scan direction (Fig. 26, element x-dir) arranged on a print head (Fig. 26, element 606) each ejection head having a plurality of nozzles (Fig. 16, elements 108) for ejecting a filter material in droplets (Column 1, lines 26-33), the plurality of nozzles (Fig. 16, elements 108) linearly arranged with a constant layout pitch of (D) (Fig. 23, Nozzle Pitch), the plurality of ejection heads are arranged on the print head to form at least one linear row of nozzles (Fig. 16, center line of nozzles, i.e. y direction) arranged in the first direction (Fig. 26, element x-dir),

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- wherein at least one of the ejection heads (Fig. 3A, elements 120, 121, 122) is configured to eject a first type of filter material (Column 10, lines 30-36), and at least another of the ejection heads is configured to eject a second type of filter material (Column 10, lines 30-36), and the at least one and another ejection heads are arranged in the first direction (Fig. 26 above).

With respect to claim 43, Shigemura discloses a method for manufacturing a color filter (Columns 7-11), comprising:

- scanning a substrate by moving a table (Fig. 14, elements 603, 604) and a plurality of ejection heads (Fig. 26, elements 120a, 120b, 121a, 121b, 122a, 122b) which are arranged in a first direction that is perpendicular to a head scan direction (Fig. 26, element x-dir) arranged on a print head (Fig. 26, element 606); and
- ejecting a plurality of types of filter material (Column 10, lines 48-52) in droplets (Column 1, lines 26-33) by the plurality of ejection heads each ejection head having a plurality of nozzles (Fig. 16, elements 108) arranged with a constant layout pitch of (D) (Fig. 23, Nozzle Pitch), the plurality of ejection heads being linearly arranged to form at least one linear row of nozzles (Fig. 16, center line of nozzles, i.e. y direction) which is arranged in the first direction (Fig. 26, element x-dir),
- wherein at least one of the ejection heads (Fig. 3A, elements 120, 121, 122) ejects a first type of filter material (Column 10, lines 30-36), at least another of the ejection heads ejects a second type of filter material (Column 10, lines 30-

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36), and the at least one and another ejection heads are arranged in the first direction (Center line of nozzles above, i.e. after rotation).

With respect to claim 44, Shigemura discloses a method for manufacturing an electroluminescence substrate (Columns 26-27), comprising:

- scanning a substrate by moving a table (Fig. 14, elements 603, 604) and a plurality of ejection heads (Fig. 26, elements 120a, 120b, 121a, 121b, 122a, 122b) which are arranged in a first direction that is perpendicular to a head scan direction (Fig. 26, element x-dir) arranged on a print head (Fig. 26, element 606); and
- ejecting a plurality of types of functional layer forming material (Column 27, lines 30-34) in droplets (Column 1, lines 26-33) by a plurality of ejection heads, having a plurality of nozzles (Fig. 16, elements 108) arranged with a constant layout pitch of (D) (Fig. 23, Nozzle Pitch), the plurality of ejection heads being linearly arranged to form at least one linear row of nozzles (Fig. 16, center line of nozzles, i.e. y direction) which is arranged in the first direction (Fig. 26, element x-dir),
- wherein at least one of the ejection heads (Fig. 3A, elements 120, 121, 122) ejects a first type of functional layer forming material (Column 10, lines 30-36), at least another of the ejection heads ejects a second type of functional layer forming material (Column 10, lines 30-36), and the at least one and another ejection heads are arranged in the first direction (Center line of nozzles above, i.e. after rotation).

With respect to claim 45, Shigemura discloses nozzles (Fig. 16, elements 108) of the at least one and another ejection heads are arranged in one of the linear row of nozzles arranged perpendicular to the head scan direction (Fig. 26 above).

With respect to claim 46, Shigemura discloses the nozzles (Fig. 16, elements 108) of the at least one and another ejection heads are arranged in one of the linear row of nozzles arranged perpendicular to the head scan direction (Fig. 26 above).

With respect to claim 47, Shigemura discloses the nozzles (Fig. 16, elements 108) of the at least one and another ejection heads are arranged in one of the linear row of nozzles arranged perpendicular to the head scan direction (Fig. 26 above).

With respect to claim 48, Shigemura discloses the nozzles (Fig. 16, elements 108) of the at least one and another ejection heads are arranged in one of the linear row of nozzles arranged perpendicular to the head scan direction (Fig. 26 above).

Although Shigemura does not disclose how much rotation the head θ motor performs on the head unit in Figure 26, the claim would have been obvious because a particular known technique (i.e. head θ motor rotating the head $\pi/2$ radians) was recognized as part of the ordinary capabilities of one skilled in the art.

Response to Arguments

Applicant's arguments filed 25 July 2008 have been fully considered but they are not persuasive. The applicant argues "The Office Action apparently interprets an arrangement of the ejection heads in Shigemura, and row of nozzles, to be along a head scan direction prior to rotation, and then interprets a plurality of first, second and

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third nozzles arranged in a same line after rotation. However, such features do not reasonably correspond to a first direction in which (1) the plurality of ejection heads are arranged, (2) the at least one linear row of nozzles is arranged, and (3) at least two of the ejection heads, that are configured to eject different types of filter material, are arranged. Aspects of the above features are depicted, in exemplary manner, in Fig. 3 of Applicants' disclosure."

However, as stated above, the claim would have been obvious because a particular known technique (i.e. head θ motor rotating the head $\pi/2$ radians), was recognized as part of the ordinary capabilities of one skilled in the art. Since Shigemura has the capability of changing the "arrangement" of the ejection heads and nozzles, the claims would have been obvious to one of ordinary skill in the art.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey Mruk whose telephone number is (571)272-2810. The examiner can normally be reached on Monday-Friday 7:30am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/G. M./
Examiner, Art Unit 2853
12/8/2008

/Manish S. Shah/
Primary Examiner, Art Unit 2853